

Amendments to the Claims:

Please amend claims 1, 7, 9, 12, 14, 15 and 17 as shown in the following listing of claims. This listing of claims will replace all prior versions, and listings, of claims in the application.

- 1 1. (currently amended) A method of correcting erroneous image signals
2 comprising:
3 providing a high signal and a low signal based on an image signal of a
4 previously processed pixel, said high signal and said low signal defining a signal
5 range about said image signal of said previously processed pixel; and
6 digitizing an analog signal of a current pixel using said high and low
7 signals as references to derive a digitized signal of said current pixel within said
8 signal range, including limiting said analog signal of said current pixel by said high
9 and low signals ~~when a signal difference between said previously processed pixel and~~
10 ~~said current pixel is greater than a predefined threshold.~~
- 1 2. (original) The method of claim 1 further comprising a step of converting said
2 image signal of said previously processed pixel to said high signal and said low
3 signal.
- 1 3. (original) The method of claim 2 wherein said step of converting said image
2 signal of said previously processed pixel includes digital-to-analog converting said
3 image signal of said previously processed pixel to said high signal and said low
4 signal, wherein said high and low signals are voltages.
- 1 4. (original) The method of claim 1 further comprising a step of comparing said
2 analog signal of said current pixel with an analog signal of a previously processed
3 pixel.

1 5. (original) The method of claim 4 further comprising a step of converting said
2 image signal of said previously processed pixel to said high signal and said low
3 signal, wherein said high and low signals are dependent on said comparing of said
4 analog signal of said current pixel with said analog signal of said previously
5 processed pixel.

1 6. (original) The method of claim 1 wherein said step of digitizing said analog
2 signal of said current pixel includes utilizing a flash analog-to-digital converter for
3 said digitizing.

1 7. (currently amended) The method of claim 1 further comprising a step of
2 adding a conversion signal to said digitized signal of said current pixel, said
3 conversion signal being a digitized image signal of said previously processed pixel
4 ~~based on said low signal.~~

1 8. (original) The method of claim 1 wherein said image signal of said previously
2 processed pixel is a digital signal, and wherein said image signal has more bits than
3 said digitized signal of said current pixel.

1 9. (currently amended) A system for correcting erroneous image signals
2 comprising:

3 means for outputting a high signal and a low signal based on a signal
4 of a previously processed pixel, said high signal and said low signal defining a signal
5 range about said image signal of said previously processed pixel; and

6 an analog-to-digital converter having a high reference input and a low
7 reference input to receive said high signal and said low signal, said analog-to-digital
8 converter being configured to digitize an analog signal of a current pixel using said
9 high and low signals as references to derive a digitized signal of said current pixel
10 within said signal range such that said analog signal of said current pixel is limited
11 ~~when a signal difference between said previously processed pixel and said current~~
12 ~~pixel is greater than a predefined threshold.~~

1 10. (original) The system of claim 9 wherein said outputting means includes a
2 digital-to-analog converter to generate said high and low signals from said image
3 signal of said previously processed pixel.

1 11. (original) The system of claim 10 wherein said digital-to-analog converter is
2 configured to convert an input digital signal having more bits than said digitized
3 signal of said current pixel.

1 12. (currently amended) The system of claim 11 wherein said digital-to-analog
2 converter is a ten bit digital-to-analog ~~analog-to-digital~~ converter, and wherein said an
3 analog-to-digital converter is a seven bit analog-to-digital converter.

1 13. (original) The system of claim 10 wherein said outputting means includes a
2 comparator that outputs a comparison signal to said digital-to-analog converter, said
3 comparison signal being based on a comparison of said analog signal of said current
4 pixel with an analog signal of a previously processed pixel, said high and low signals
5 generated by said digital-to-analog converter being dependent on said comparison.

1 14. (currently amended) The system of claim 13 wherein said digital-to-analog
2 converter is a ten bit digital-to-analog ~~analog-to-digital~~ converter, and wherein said an
3 analog-to-digital converter is a six bit analog-to-digital converter.

1 15. (currently amended) The system of claim 9 further comprising a means for
2 adding a conversion signal to said digitized signal, said conversion signal being a
3 digitized image signal of said previously processed pixel ~~based on said low signal~~.

1 16. (original) The system of claim 9 wherein said analog-to-digital converter is a
2 flash analog-to-digital converter.

1 17. (currently amended) A system for correcting erroneous image signals during
2 analog-to-digital conversion comprising:

3 a sensor array of photosensitive pixels, each of said photosensitive
4 pixels being configured to accumulate an analog image signal when exposed to light;
5 and

6 an analog-to-digital converter unit operatively coupled to said sensor
7 array to receive analog image signals from said photosensitive pixels, said analog-to-
8 digital converter unit comprising:

9 a digital-to-analog converter that outputs a high signal and a low signal
10 based on a digital image signal of a previously processed photosensitive pixel, said
11 high signal and said low signal defining a signal range about said digital image signal
12 of said previously processed pixel; and

13 an analog-to-digital converter having a high reference input and a low
14 reference input to receive said high signal and said low signal, said analog-to-digital
15 converter being configured to digitize an analog signal of a current photosensitive
16 pixel using said high and low signals as references to derive a digitized signal of said
17 current pixel within said signal range such that said analog signal of said current pixel
18 is limited ~~when a signal difference between said previously processed pixel and said~~
19 ~~current pixel is greater than a predefined threshold.~~

1 18. (original) The system of claim 17 wherein said digital-to-analog converter is
2 configured to convert an input digital signal having more bits than said digitized
3 signal of said current pixel.

1 19. (original) The system of claim 17 wherein an analog-to-digital converter unit
2 includes a comparator that outputs a comparison signal to said digital-to-analog
3 converter, said comparison signal being based on a comparison of said analog signal
4 of said current pixel with an analog signal of a previously processed pixel, said high
5 and low signals being dependent on said comparison.

1 20. (original) The system of claim 17 further comprising a means for adding a
2 conversion signal to said digitized signal, said conversion signal being based on said
3 low signal.

- 1 21. (original) The system of claim 17 wherein said analog-to-digital converter is a
- 2 flash analog-to-digital converter.

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